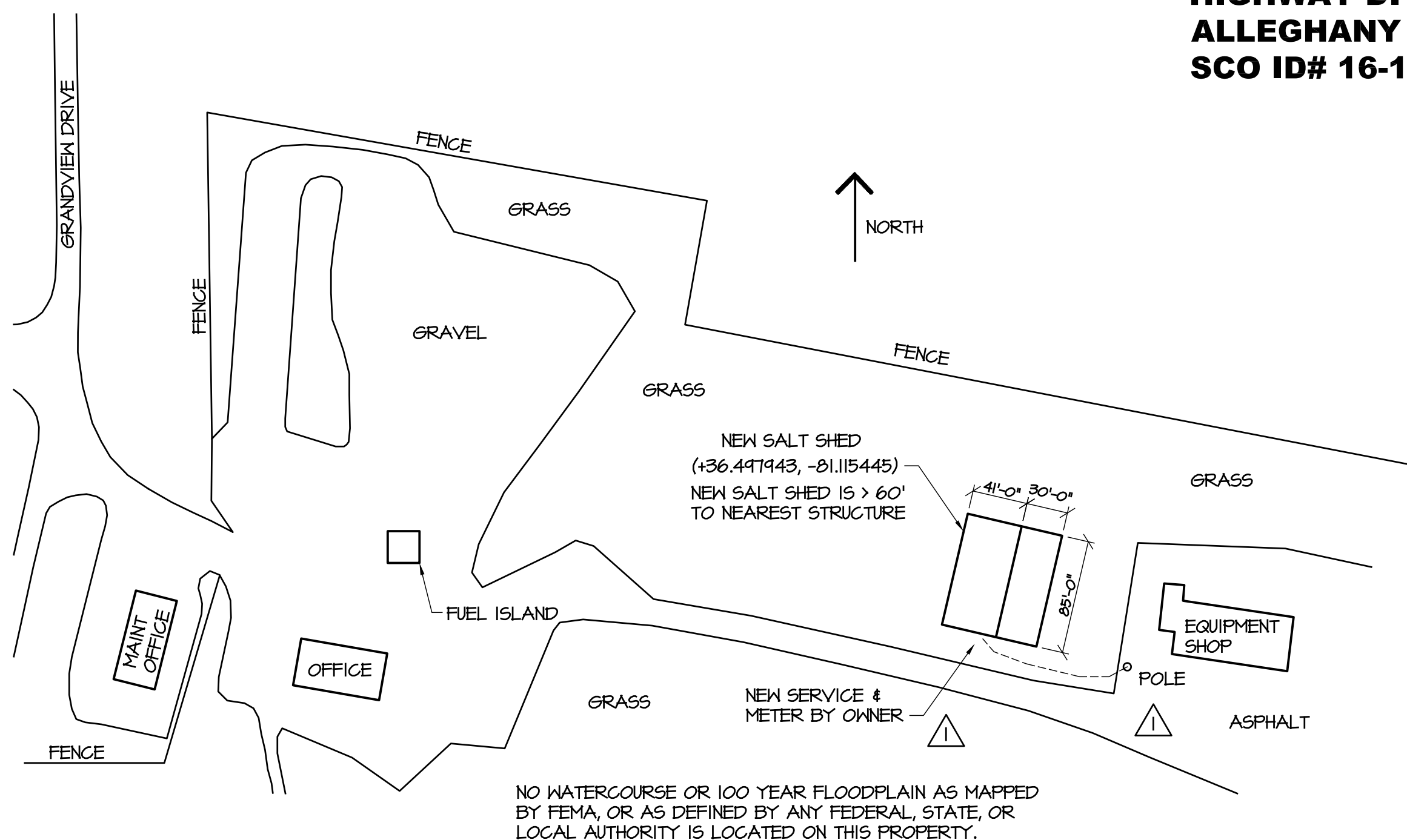


FOUR-BAY SALT STORAGE SHED

SITE LAYOUT

**HIGHWAY DIVISION 11, NCDOT
ALLEGANY COUNTY, NC
SCO ID# 16-13024-01A**



INDEX OF DRAWINGS

- S1 ELEVATIONS, BUILDING CODE SUMMARY
- S2 FOUNDATION & FRAMING PLANS
- S3 DETAILS
- S4 DETAILS & GENERAL NOTES
- E1 NOTES & SPECIFICATIONS
- E2 LIGHTING/POWER PLAN

2012 APPENDIX B BUILDING CODE SUMMARY

Name of Project: **ALLEGANY COUNTY FOUR-BAY SALT SHED**
Address: **271 GRANDVIEW DR., SPARTA, NC 28675**
Proposed Use: **STORAGE**
Owner or Authorized Agent: **HIGHWAY DIVISION 11** Phone # **919-707-4551**
Owned By: **STATE OF NORTH CAROLINA** ☐ City/County ☐ Private ☒ State
Code Enforcement Jurisdiction: ☐ City ☐ County

LEAD DESIGN PROFESSIONAL: **MIKE MOUNTCASTLE** 17326 (919) 707-4547 mdmountcastle@ncdot.gov
DESIGNER: **FIRM NAME LICENSE # TELEPHONE # E-MAIL**
Architectural: **FACILITIES DESIGN, NCDOT**
SITE "Civil"
Electrical: **BURKE DESIGN GROUP BEN BURKE 22036 (919) 771-1916 ben@bdg-nc.com**
Plumbing
Mechanical
Sprinkler-Standpipe
Structural: **NCDOT MIKE MOUNTCASTLE 17326 (919) 707-4547 mdmountcastle@ncdot.gov**

2012 EDITION OF NC CODE FOR: ☒ New Construction ☐ Addition ☐ Upfit
EXISTING: ☐ Reconstruction ☐ Alteration ☐ Repair
CONSTRUCTED: ☐ ORIGINAL USE ☐ RENOVATED ☐ CURRENT USE

BUILDING DATA
Construction Type: ☐ I-A ☐ II-A ☐ III-A ☐ IV ☐ V-A
☐ I-B ☐ II-B ☐ III-B ☒ V-B
Mixed construction: ☒ No ☐ Yes Types: ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Sprinklers: ☒ No ☐ Partial ☐ Yes ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☒ No ☐ Yes Class ☐ I ☐ II ☐ III ☐ Wet ☐ Dry
Fire District: ☒ No ☐ Yes Flood Hazard Area: ☒ No ☐ Yes
Building Height: Feet: **25'-0"** Number of Stories: **1**
Mezzanine: ☒ No ☐ Yes
Gross Building Area:
FLOOR EXISTING (SQ. FT.) NEW (SQ. FT.) SUB-TOTAL
1st Floor 3485 3485 3485
TOTAL 3485 3485 3485

ALLOWABLE AREA
Primary Occupancy: ☐ Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
☐ Business ☐ Educational ☐ Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4 ☐ I-5
I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
☐ Mercantile ☐ Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage ☐ S-1 Moderate ☐ S-2 Low ☐ High-piled
☒ Utility and Miscellaneous ☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage
Secondary Occupancy: N/A
Mixed Occupancy: ☒ No ☐ Yes Separation: _____ Hr. Exception: _____

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 503 AREA	(C) AREA FOR OPEN SPACE INCREASE	(D) AREA FOR SPRINKLER INCREASE	(E) ALLOWABLE AREA OR UNLIMITED	(F) MAXIMUM BUILDING AREA
1	Utility & Misc.	3485	5500	NOT USED	NOT USED	5500	5500

TYPE:	II-B	ALLOWABLE (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
Building height in feet	Feet 40	Feet 40	N/A	Feet 20'-1"	503
Building Height in Stories	Stories 1	Stories 1	N/A	Stories 1	503

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	PROVIDED w/ REDUCT	DETAIL SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
Structural frame, including columns, girders, & trusses	10	0	0	—	—	—	—
Exterior walls	—	0	0	—	—	—	—
Interior walls and partitions	—	0	0	—	—	—	—
Roof construction	10	0	0	—	—	—	—

* Indicate section number permitting reduction

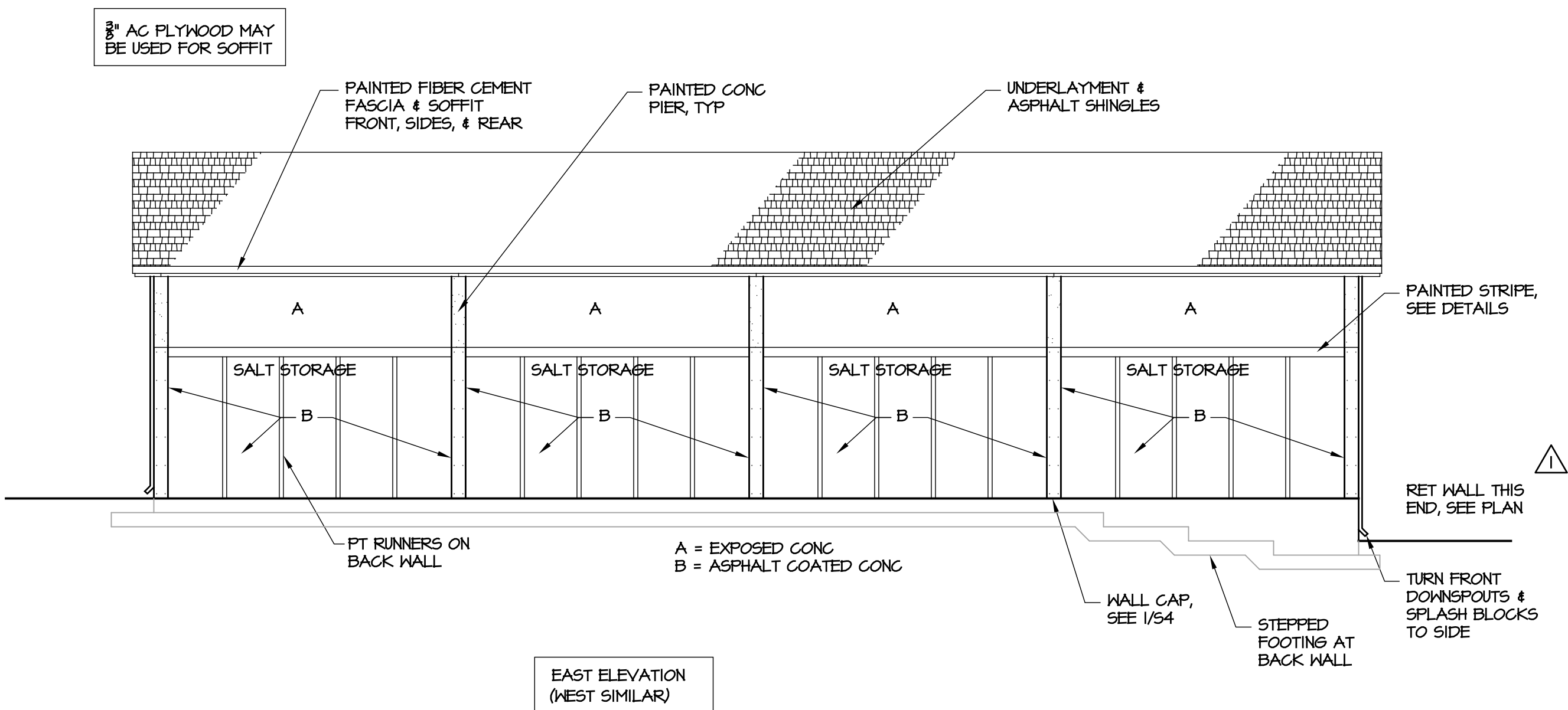
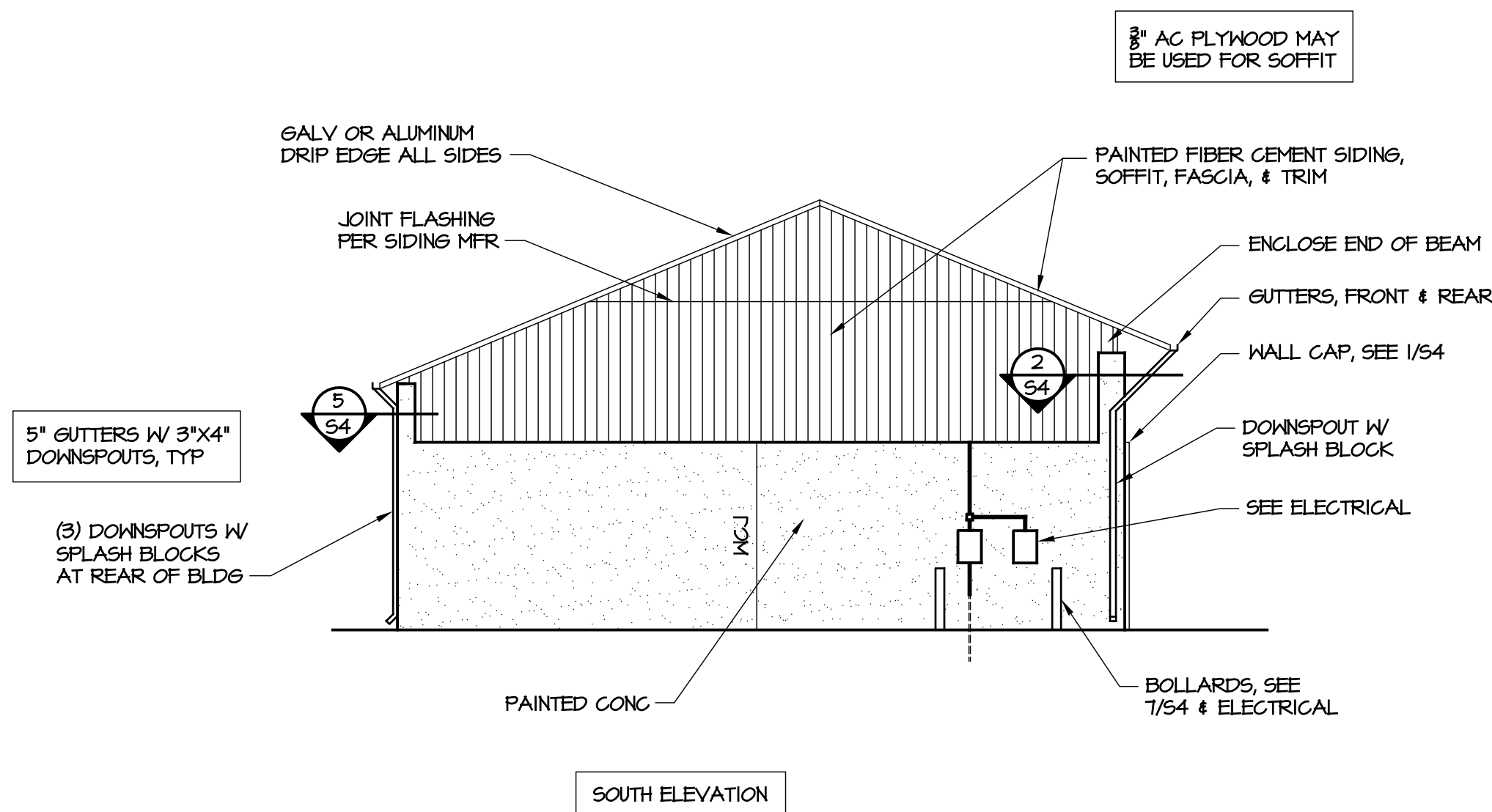
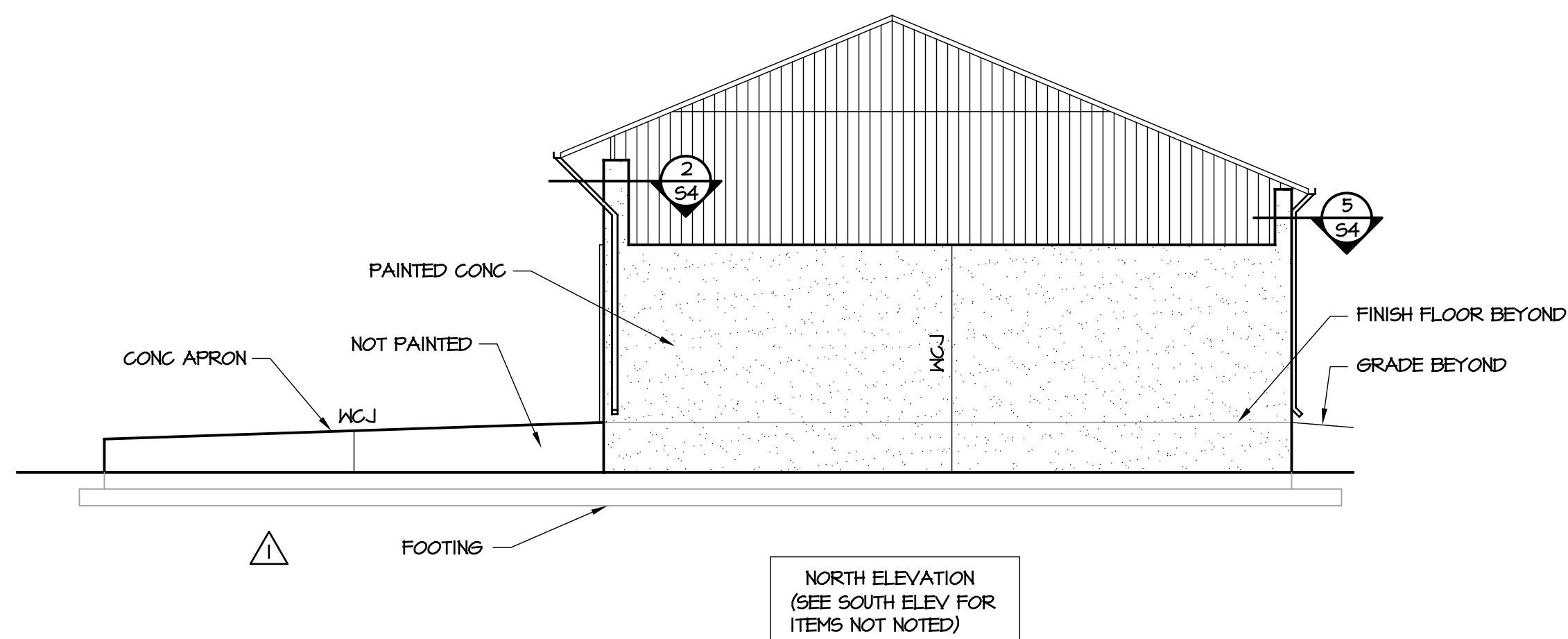
LIFE SAFETY SYSTEM REQUIREMENTS	
Emergency Lighting:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
Exit Signs:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
Fire Alarm:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
Smoke Detection Systems:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
Panic Hardware:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes

EXIT REQUIREMENTS	N/A
-------------------	-----

STRUCTURAL DESIGN	
DESIGN LOADS:	
Importance Factors:	Wind (1/4) 1.0 Live Loads: Roof 20 psf
	Snow (1/4) 1.0 Mezzanine N/A psf
	Seismic (1/2) 1.0 Floor 800 psf
Snow Load:	20 psf
Wind Load:	Basic Wind Speed 90 mph (ASCE-7-05)
	Exposure Category B
	Wind Base Shears (for MWFRS) Vx = Vy =

SEISMIC DESIGN:	Compliance with Section 1616.4 only? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
SEISMIC DESIGN CATEGORY:	<input type="checkbox"/> A <input type="checkbox"/> B <input checked="" type="checkbox"/> C <input type="checkbox"/> D
Provide the following Seismic Design Parameters:	
Occupancy Category:	<input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV S ₁ 8.9 %g
Spectral Response Acceleration S _s	29.4 %g
Site Classification:	<input type="checkbox"/> D <input type="checkbox"/> Field Test <input checked="" type="checkbox"/> Presumptive
Basic structural system (check one)	<input checked="" type="checkbox"/> Bearing Wall <input type="checkbox"/> Dual w/Special Moment Frame
	<input type="checkbox"/> Building Frame <input type="checkbox"/> Dual w/Intermediate R/C or Special Steel
	<input type="checkbox"/> Moment Frame <input type="checkbox"/> Inverted Pendulum
Seismic base shear	V _s = V _e = X Equivalent Lateral Force Model
Analysis Procedure	<input checked="" type="checkbox"/> Simplified <input type="checkbox"/> X
Architectural, Mechanical, Components anchored?	N/A
LATERAL DESIGN CONTROL:	Earthquake Wind X Special Inspection Required? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
SOIL BEARING CAPACITIES:	<input type="checkbox"/> Field Test <input checked="" type="checkbox"/> Presumptive 1500

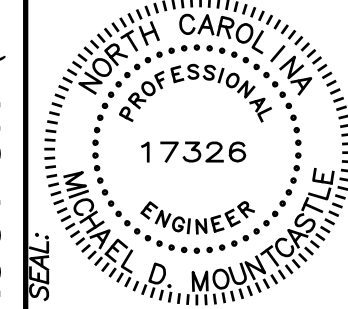
PLUMBING, ENERGY, & MECHANICAL SUMMARIES — NOT APPLICABLE
ELECTRICAL SUMMARY — SEE ELECTRICAL PLANS



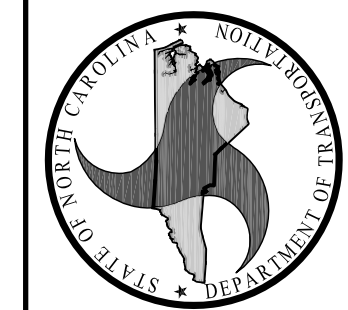
ELEVATIONS

SCALE: 1/8" = 1'-0"

FOR CONSTRUCTION



**FACILITIES DESIGN
ARCHITECTS & ENGINEERS**
FACILITIES MANAGEMENT DIVISION, NCDOT
1 SOUTH WILMINGTON STREET
RALEIGH, NORTH CAROLINA 27601
PHONE 919/707-4600 FAX 919/707-0389



DESIGNED BY:

CONSULTANT:

ELEVATIONS
BUILDING CODE SUMMARY
CONSTRUCTION DOCUMENTS

DRAWING TITLE / DESCRIPTION:

**NEW FOUR-BAY SALT
STORAGE BUILDING**
HIGHWAY DIVISION 11, NCDOT
ALLEGANY COUNTY, NORTH CAROLINA

STATE CONSTRUCTION

ID# 16-13024-01A

ASSET NUMBER:

CO. # SITE # BLDG. #

03 - 02 - 00

REVISIONS

NO. DATE

DATE ISSUED: 04-10-17

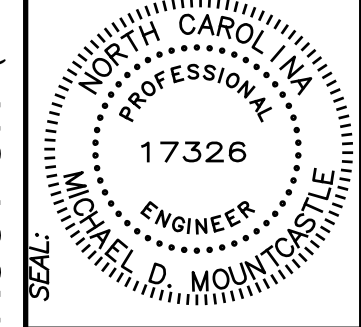
DRAWN BY: MDM

CHECKED BY: MDM

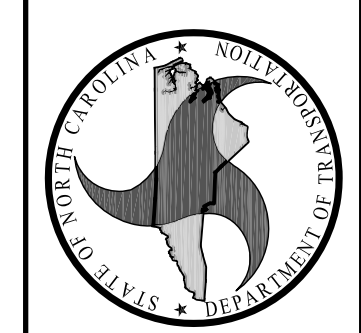
SHEET NO.

S1

1 OF 4



FOR CONSTRUCTION
DESIGNED BY:
FACILITIES DESIGNERS
ARCHITECTS & ENGINEERS
FACILITIES MANAGEMENT DIVISION, NCDOT
1 SOUTH WILMINGTON STREET
RALEIGH, NORTH CAROLINA 27601
PHONE 919/707-4640 FAX 919/706-0389



CONSULTANT:
DRAWING TITLE / DISCIPLINE:
FOUNDATION & FRAMING PLANS
CONSTRUCTION DOCUMENTS

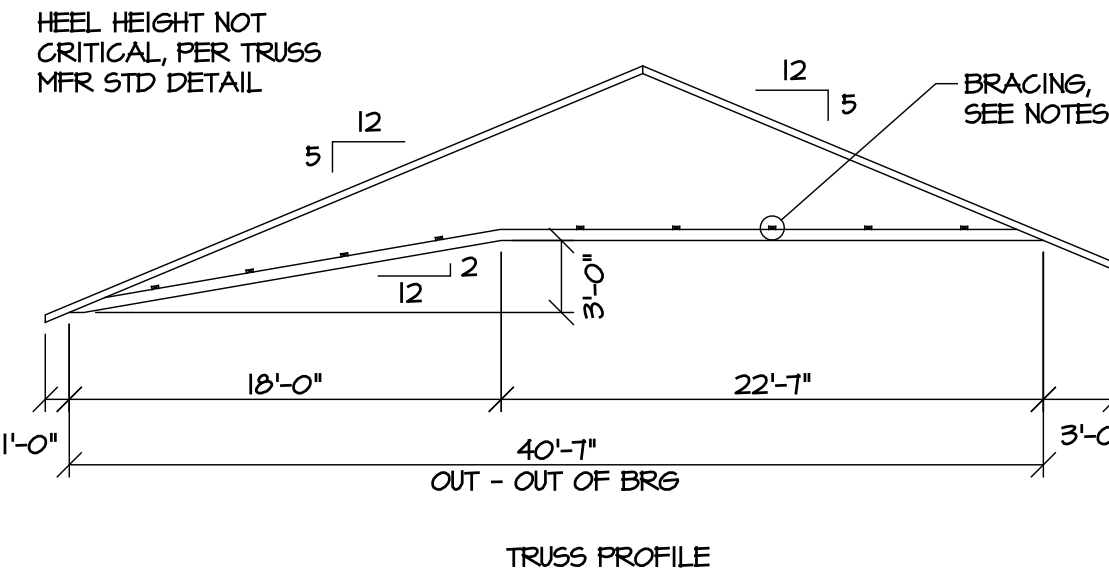
PROJECT TITLE:
NEW FOUR-BAY SALT STORAGE BUILDING
HIGHWAY DIVISION 11, NCDOT
ALLEGANY COUNTY, NORTH CAROLINA

STATE CONSTRUCTION ID# 16-13024-01A	
ASSET NUMBER: CO.# SITE.# BLDG.#	
03 - 02 - 00	
REVISIONS NO. DATE	
DATE ISSUED: 04-10-17	
DRAWN BY: MDM	
CHECKED BY: MDM	
SHEET NO.	

S2
2 OF 4

NOTES:

- PROVIDE TRUSS SHOP DRAWINGS SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NC, SHOWING TRUSS LAYOUT, TRUSS DESIGNS, & REQUIRED BRACING.
- TRUSS MFR NOTE THERE IS NO CEILING & BOTTOM CHORD BRACING MAY BE REQUIRED. GC NOTE BOTTOM CHORD BRACING IS SHOWN ON TRUSS CALCULATION SHEET & IS IN ADDITION TO THE TEMPORARY BRACING.
- THIS BUILDING MEETS CRITERIA FOR PARTIALLY ENCLOSED PER ASCE T-05 WIND REQUIREMENTS.
- WALL SHEATHING SHALL BE 1/2" APA RATED SHEATHING, 32/16 SPAN RATING, EXPOSURE 1, ATTACHED W/ 8D NAILS @ 6" OC ON PANEL EDGES & 8" OC ALONG INTERMEDIATE SUPPORTS, UGN. PROVIDE BLOCKING AT ALL PANEL EDGES ON EXTERIOR WALLS.
- ROOF SHEATHING SHALL BE 5/8" APA RATED SHEATHING, ATTACHED W/ 10D NAILS @ 6" O.C. ON PANEL EDGES, & @ 8" O.C. AT INTERIOR.
- PT DENOTES PRESSURE TREATED IN ACCORDANCE W/ ANPA STANDARDS.
- SIDING, VENTED SOFFIT, & FASCIA SHALL BE PAINTED FIBER-CEMENT BOARD, COLOR SELECTION BY OWNER.
- BM-1 = 5'-1/2" X 16" GLULAM, 24F-V4, BALANCED, & PRESSURE TREATED.

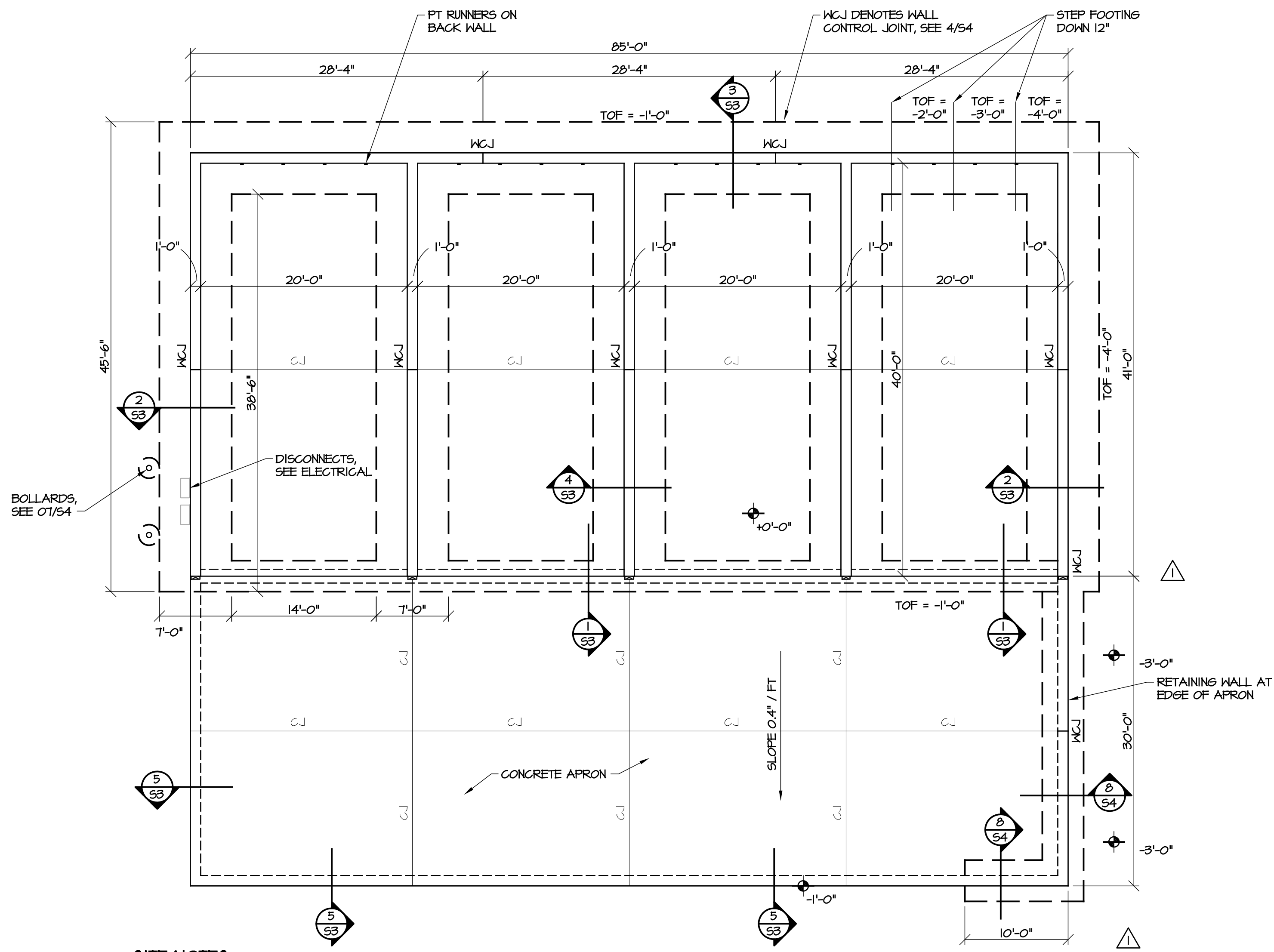
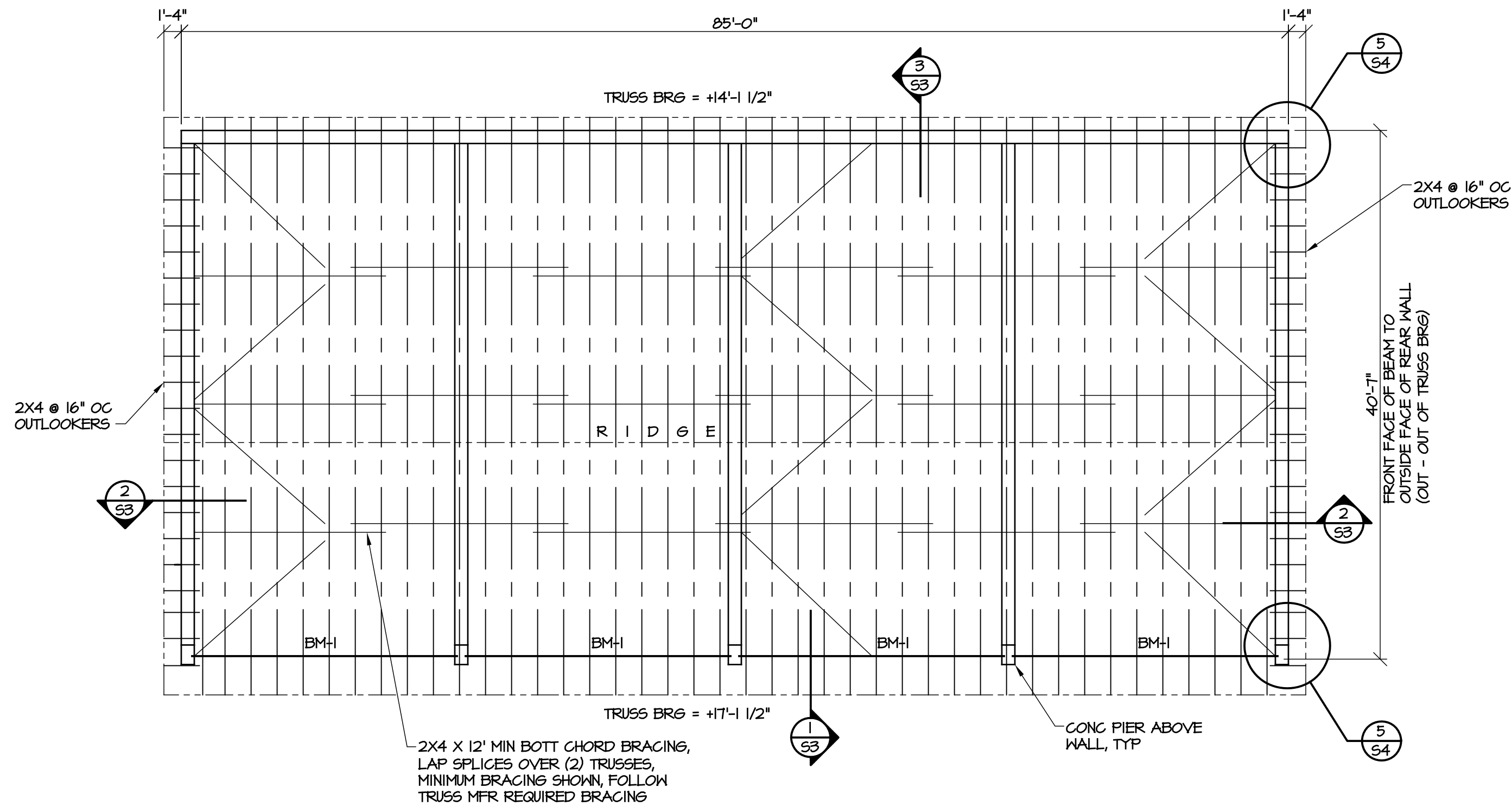


NOTES:

- COMPRESSIVE STRENGTH OF CONCRETE FOR FOOTINGS = 4000 PSI.
- CONCRETE FOR WALLS & SLABS SHALL HAVE 0.40 MAXIMUM W/C RATIO, & MINIMUM 5000 PSI COMPRESSIVE STRENGTH.
- EXPOSED CONCRETE SHALL INCLUDE 5% ENTRAINED AIR.
- ALL REINF STEEL SHALL BE ASTM A 615, GR 60. LAP ALL SPLICES 48 X BAR DIAMETER.
- ELEVATIONS SHOWN ARE ABOVE REFERENCE FLOOR ELEVATION = +0'-0".
- COORDINATE LOCATION & INSTALLATION OF ELECTRICAL WORK W/ OWNER.
- CJ DENOTES SAWED SLAB CONTROL JOINTS. SAW DEPTH = 1/4 SLAB THICKNESS. SEAL JOINTS W/ COMMERCIAL CONTROL JOINT SEALANT.

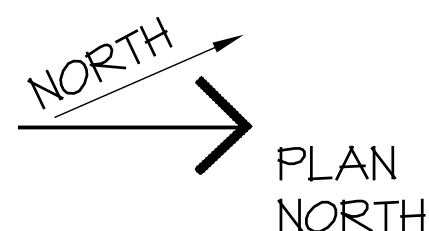
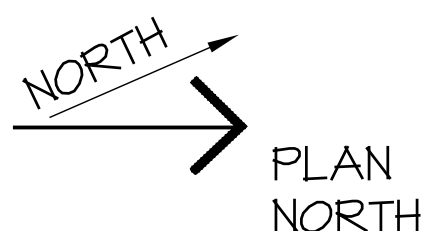
PREPARE CONCRETE WALL SURFACES AS FOLLOWS:
INTERIOR - PATCH TIE HOLES & DEFECTS, REMOVE FINS FLUSH W/ SURFACE.
EXTERIOR - PATCH TIE HOLES, BUG HOLES, & OTHER DEFECTS. REMOVE FINS FLUSH WITH SURFACE. PATCH HOLES THAT CANNOT BE SEALED W/ BLOCK FILLER & PAINT.

INTERIOR FLOOR & APRON SHALL BE 6" CONC SLAB REINF W/ EPOXY COATED #4 @ 16" OC, EN OVER 6" #51 STONE BASE.



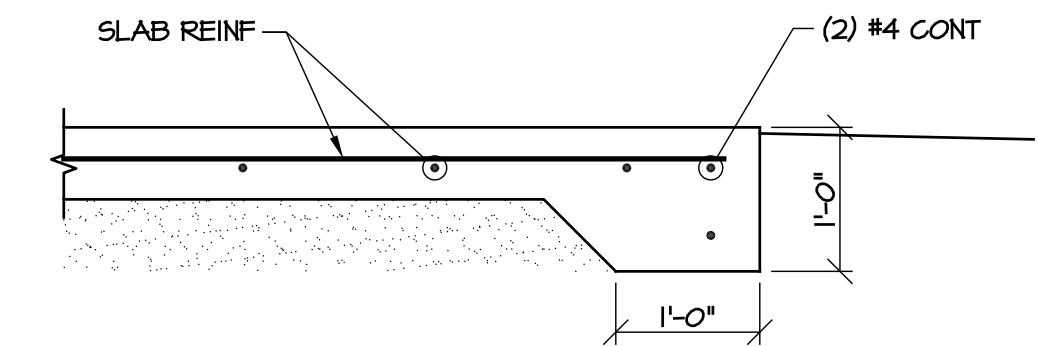
SITE NOTES:

- OWNER WILL PROVIDE ROUGH GRADING UP TO THE BUILDING SUB-GRADE.
- OWNER WILL PROVIDE LOCATION OF BUILDING, ORIENTATION, & FINISH FLOOR ELEVATION. CONTRACTOR IS RESPONSIBLE FOR BUILDING LAYOUT. AFTER LAYOUT, VERIFY BUILDING LOCATION W/ NCDOT PRIOR TO CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR FOOTING EXCAVATION, & MINOR GRADING AROUND OUTSIDE OF BUILDING. SOIL REMOVED DURING EXCAVATION MAY BE STORED ON SITE, COORDINATE LOCATION W/ OWNER.

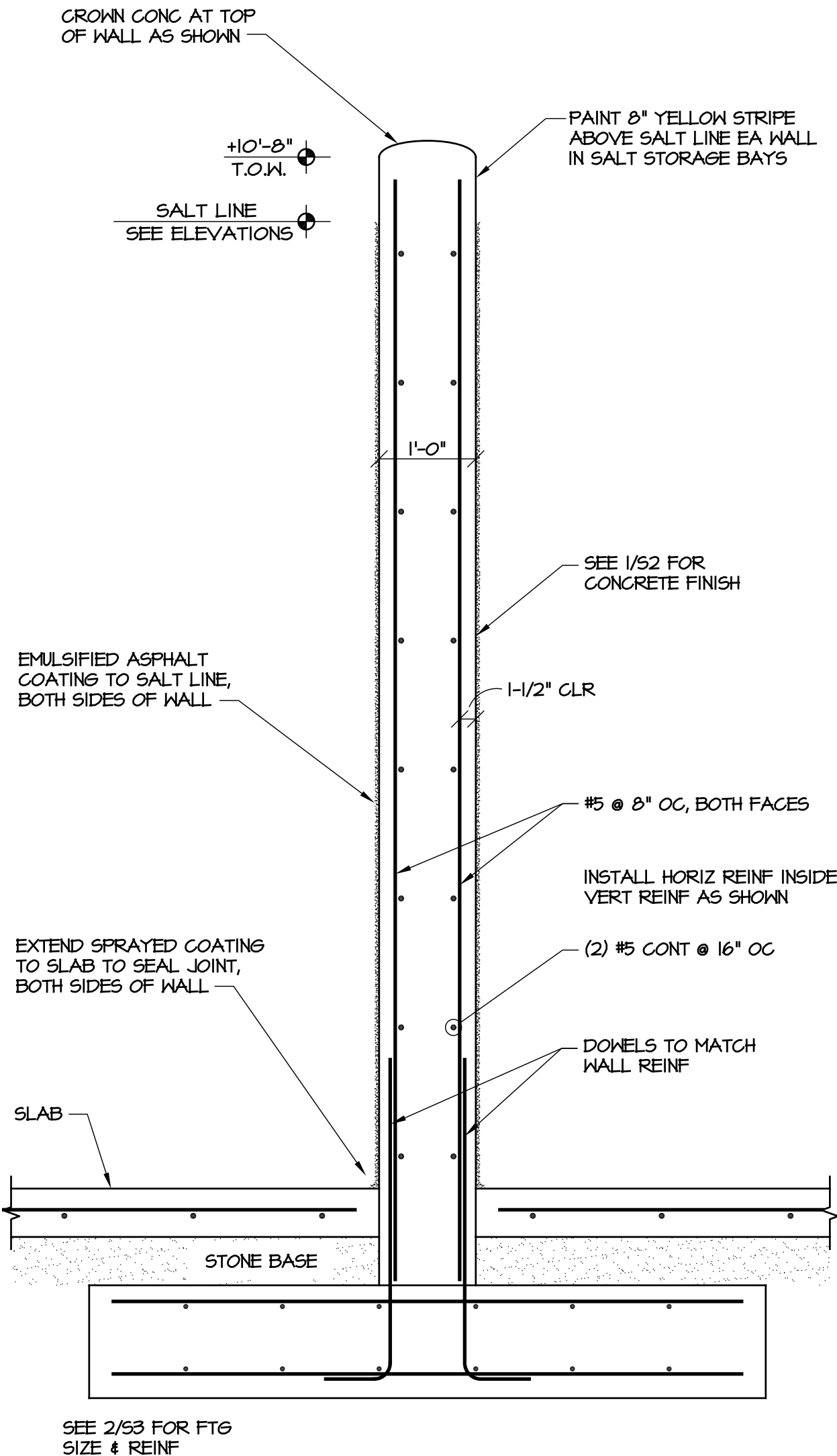


2
52 FRAMING PLAN
SCALE: 1/8" = 1'-0"

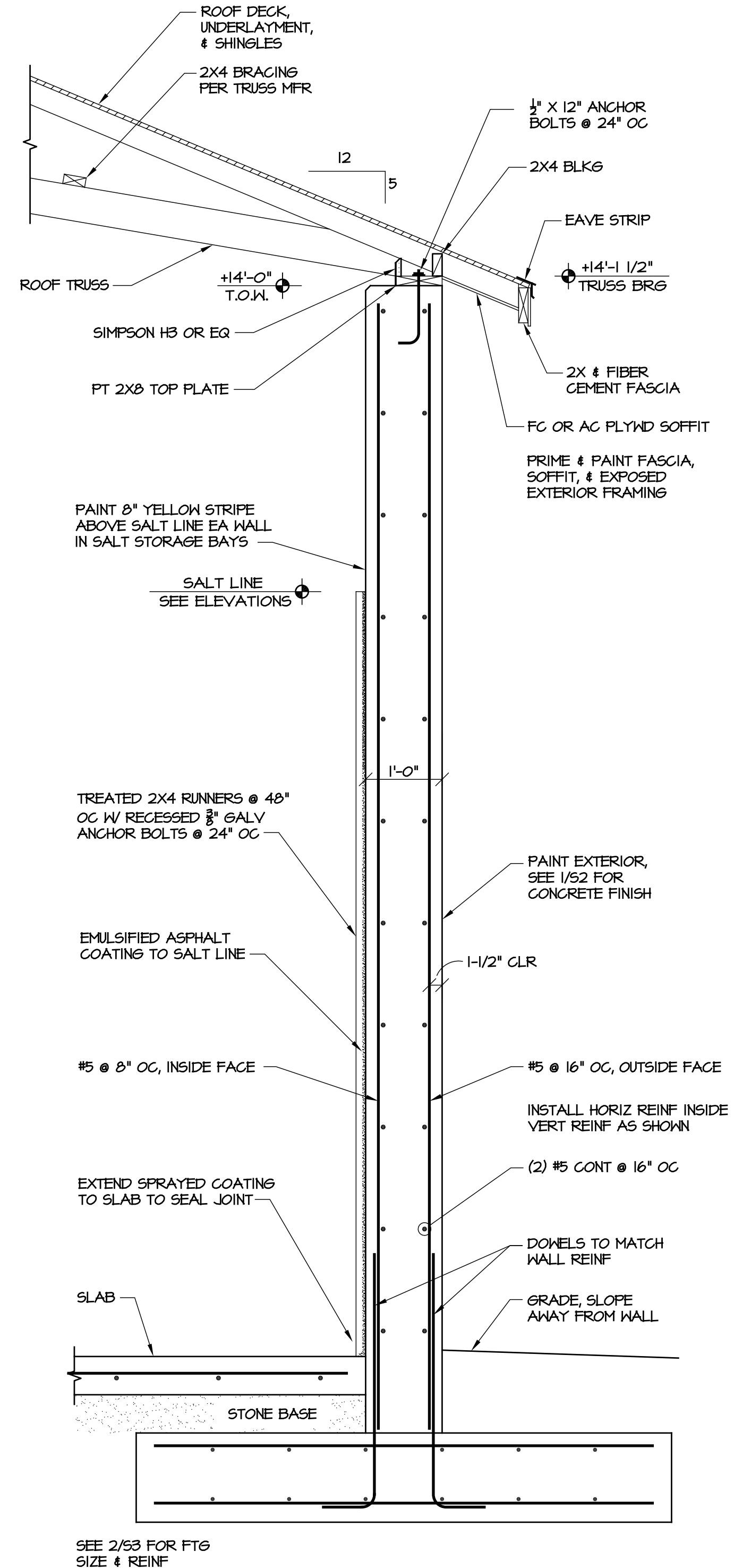
1
52 FOUNDATION PLAN
SCALE: 1/8" = 1'-0"



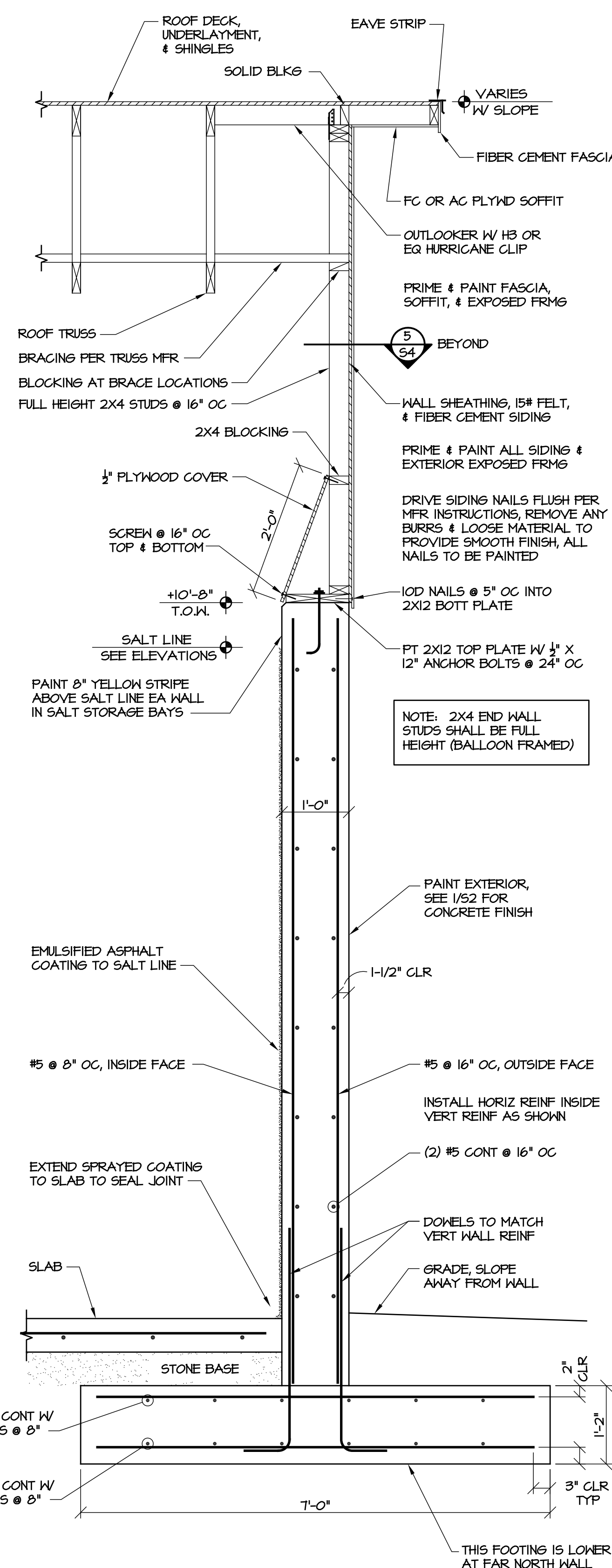
5 APRON SLAB EDGE
SCALE: 3/4" = 1'-0"



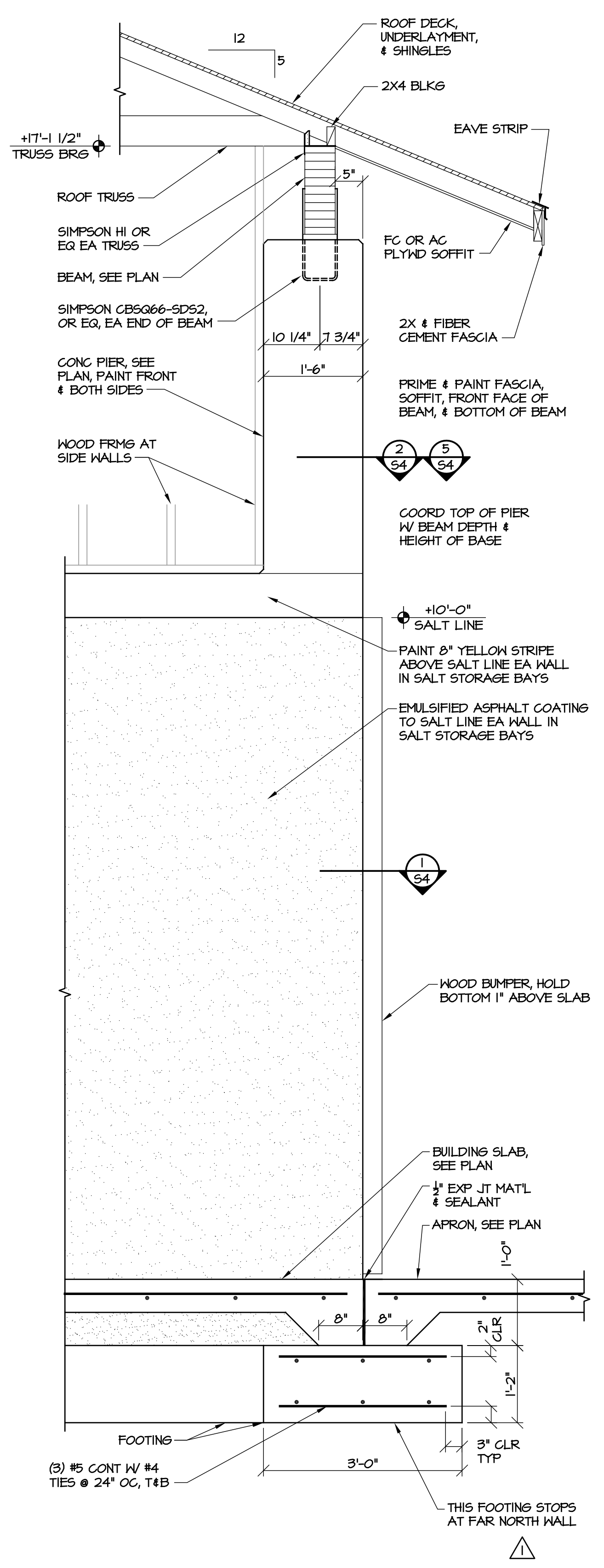
4 SECTION AT INTERIOR WALL
SCALE: 3/4" = 1'-0"



3 SECTION AT REAR WALL
SCALE: 3/4" = 1'-0"



2 SECTION AT SIDE WALL
SCALE: 3/4" = 1'-0"



1 SECTION AT FRONT OF BUILDING
SCALE: 3/4" = 1'-0"

GENERAL NOTES:

A. GENERAL

- See specifications for further information. In case of conflict between specifications & drawings, contact architect for resolution.
- Contractor is responsible for coordination & distribution of all changes in contract documents to all subcontractors.
- Contractor shall verify all field conditions, elevations, & dimensions prior to construction. Do not scale from plans.
- Means & methods of construction, including temporary bracing, shoring, & jobsite safety, are the responsibility of the contractor.
- Structural frame shall be braced until erection is complete & permanent connections & bracing are installed.
- Provide silt fence or other erosion & sediment control measures as required.
- If demolition is included in project, sawcut all edges of existing slab and asphalt to remain adjacent to new construction.

B. FOUNDATION

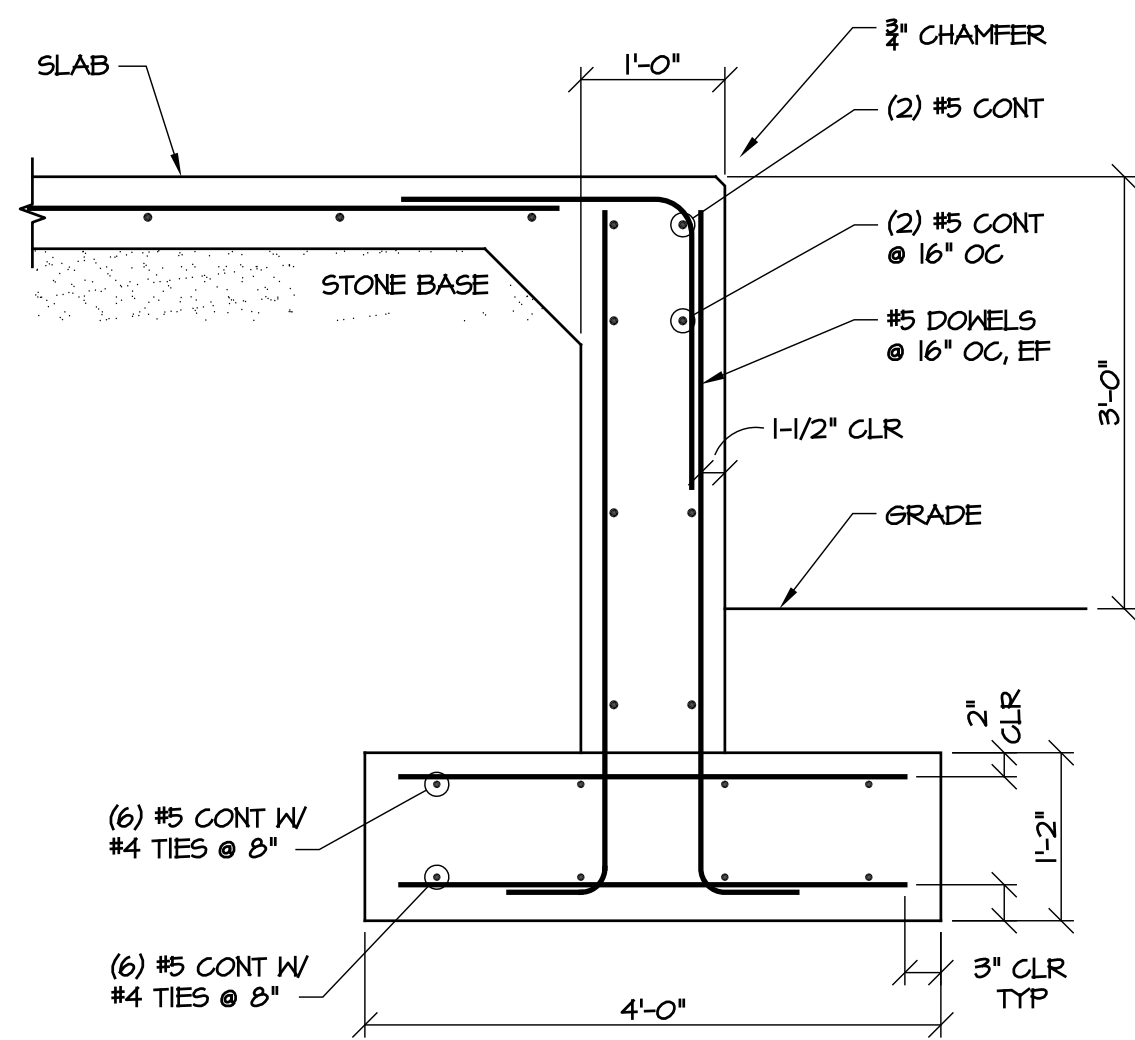
- Footing excavations shall be reviewed by a geotechnical engineer or construction testing agency approved by the architect or engineer.
- Footing depths shown are based on geotechnical investigation or presumptive soil properties. Soft or unsuitable soils shall be removed & replaced with suitable fill as specified.
- Under slabs & footings, remove all topsoil, trash, & organic material, & replace with select fill compacted to 95% maximum density as measured by the Standard Proctor Method (ASTM 698) in 12 inch maximum lifts. The top 12" shall be compacted to 98% maximum density.
- Contractor is responsible for shoring while excavating near existing structures.

C. CONCRETE

- See plans for required compressive strength of concrete.
- Coordinate floor slopes and depressions with arch and plumbing plans. Maintain specified slab thickness below depressed or sloped areas.
- If not specified on plans, provide sawed slab control joints in slabs on grade spaced at not more than 48 times the slab thickness.
- Reinforcing steel shall meet ASTM A 615, Grade 60.
- Welded wire reinforcement shall conform to ASTM A 185 & A 82.
- Grout under all columns & beam bearing plates with non-shrink, non-metallic grout which meets ASTM C 1107.
- Clear distance from face of concrete to main reinforcing:
 - Suspended slabs and joists: 1"
 - Grade beams, pedestals, columns, walls: 2"
 - Footings & walls cast against earth: 3"
- Provide (2) #4 x 48" diagonal corner bars at center of slab at all corners of floor slab openings.
- Lap all reinforcement splices 48 bar diameters, UON.
- Detailing, fabrication, & installation of reinforcing steel shall conform to ACI "Manual of Standard Practice for Detailing Reinforced Concrete Structures" (ACI 315).
- Workmanship, tolerances, & concrete placement shall conform to "Standard Specifications for Structural Concrete" (ACI 301).
- Chamfer exposed edges of concrete 3/4", UON.
- Anchor bolts shall conform to ASTM F 1554, Grade 36. Anchor bolts, nuts, & washers shall be galvanized.

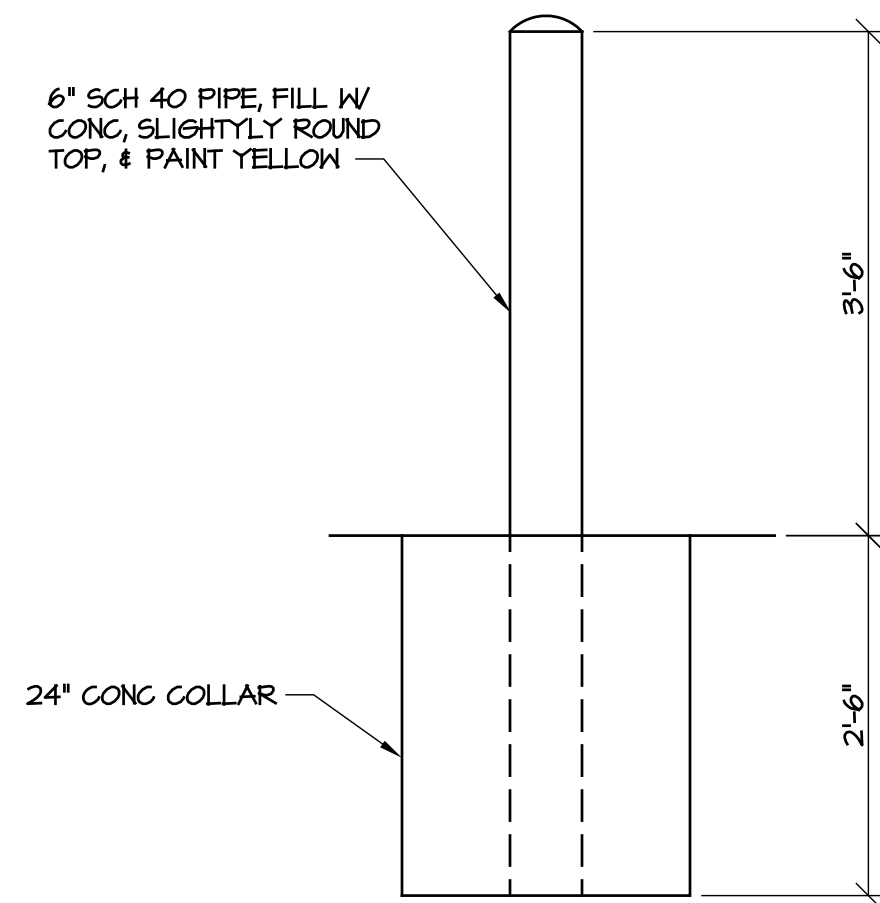
F. WOOD

- Structural lumber shall be SPF #2 or better, UON. Wood for fabricated trusses shall be SYP #2 or better, except that webs may be SYP #3.
- Wood in contact with concrete or masonry shall be treated.
- Straps, ties, hangers, & other connection hardware shall be galvanized.
- Connections not otherwise detailed shall be in accordance with Tables 2304.9.1.1 thru 2304.9.1.6 of the NC State Building Code.
- Trusses shall be designed for the full dead & live loads specified in the contract. Submit truss shop drawings bearing the seal of a registered professional engineer licensed in the state of NC. Show truss layout & truss designs including required bracing. Bracing design is the truss designer's responsibility.
- Contractor shall install both temporary and permanent bracing. Note that permanent bracing is often shown on individual truss calculation pages instead of the truss layout sheet, especially where there is no hard ceiling applied to truss.
- Additional bracing may be required by engineer of record as indicated on plans for support of gable walls or other items.
- Install blocking in walls & ceiling where required for partitions, fixtures, & other misc items. Coordinate with all trades.



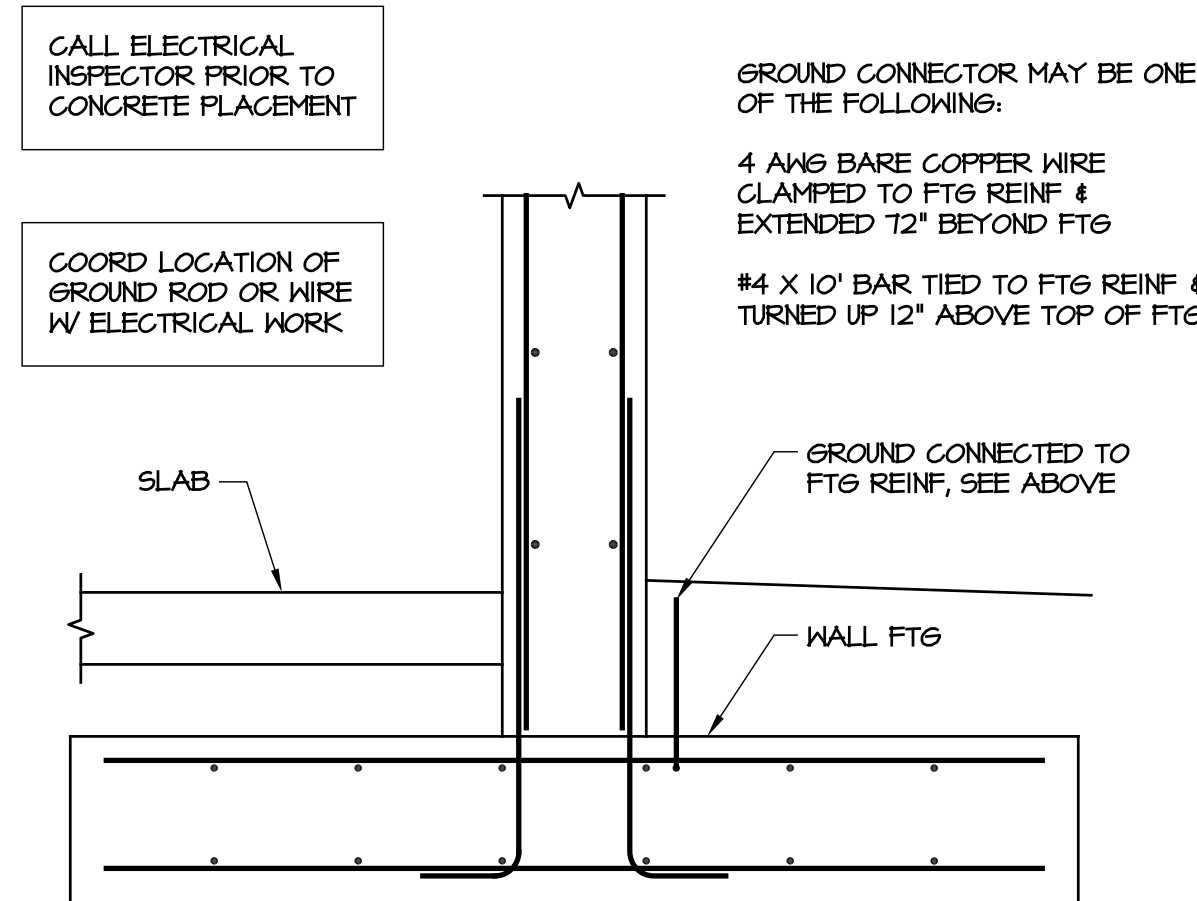
8 SECTION AT SIDE WALL

SCALE: 3/4" = 1'-0"



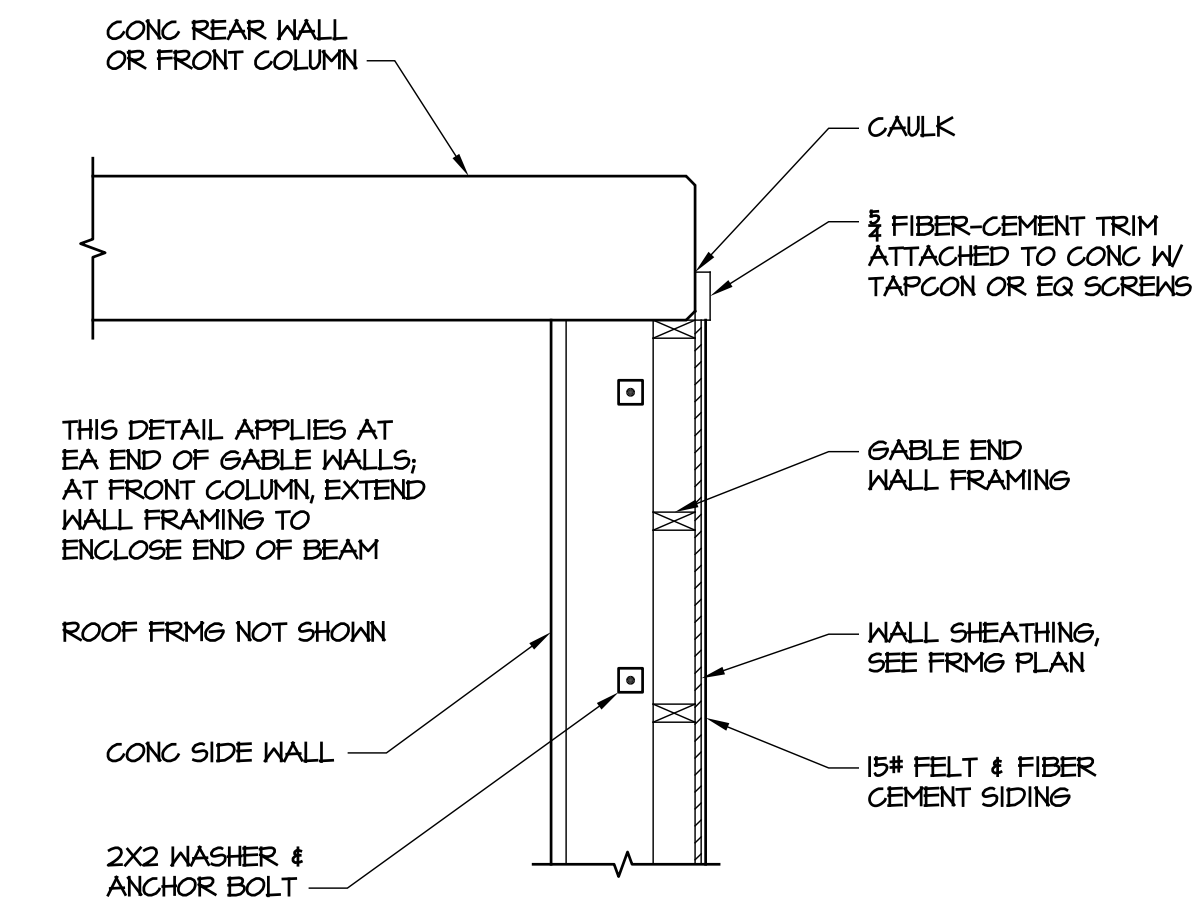
7 PIPE BOLLARD

SCALE: 3/4" = 1'-0"



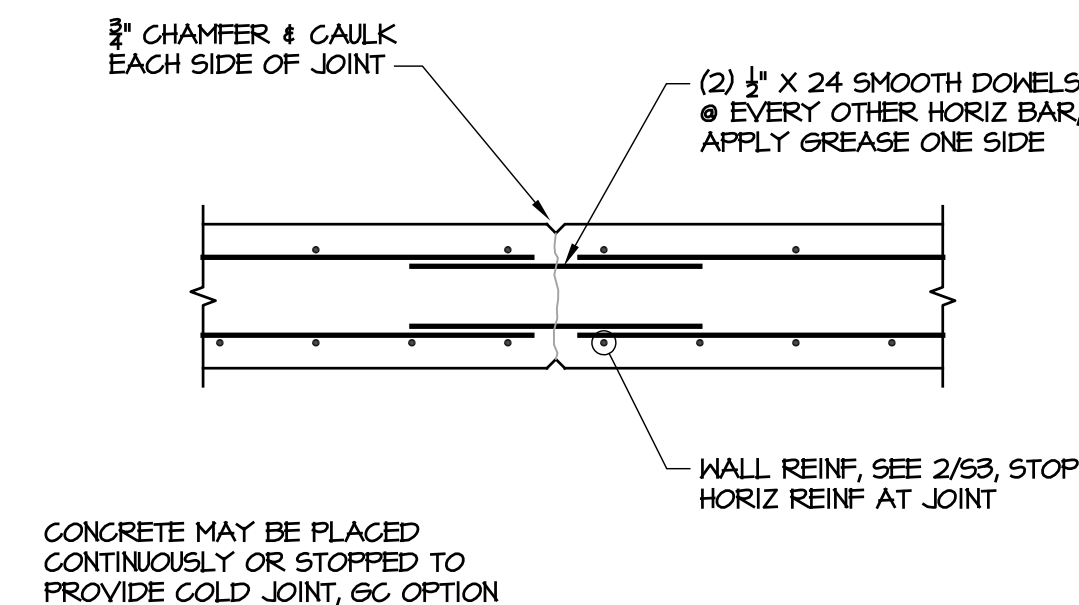
6 ELECTRICAL GROUNDING ROD

SCALE: 3/4" = 1'-0"



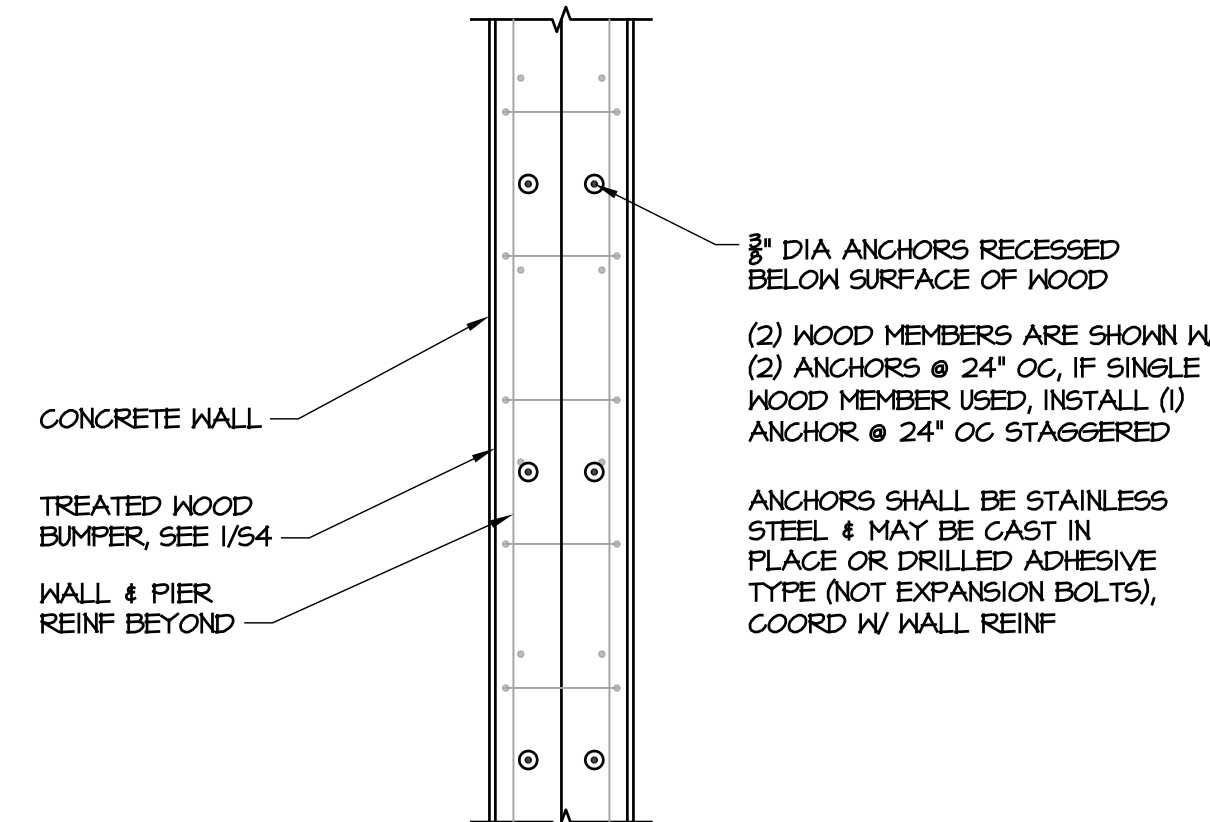
5 GABLE WALL TRIM DETAIL

SCALE: 3/4" = 1'-0"



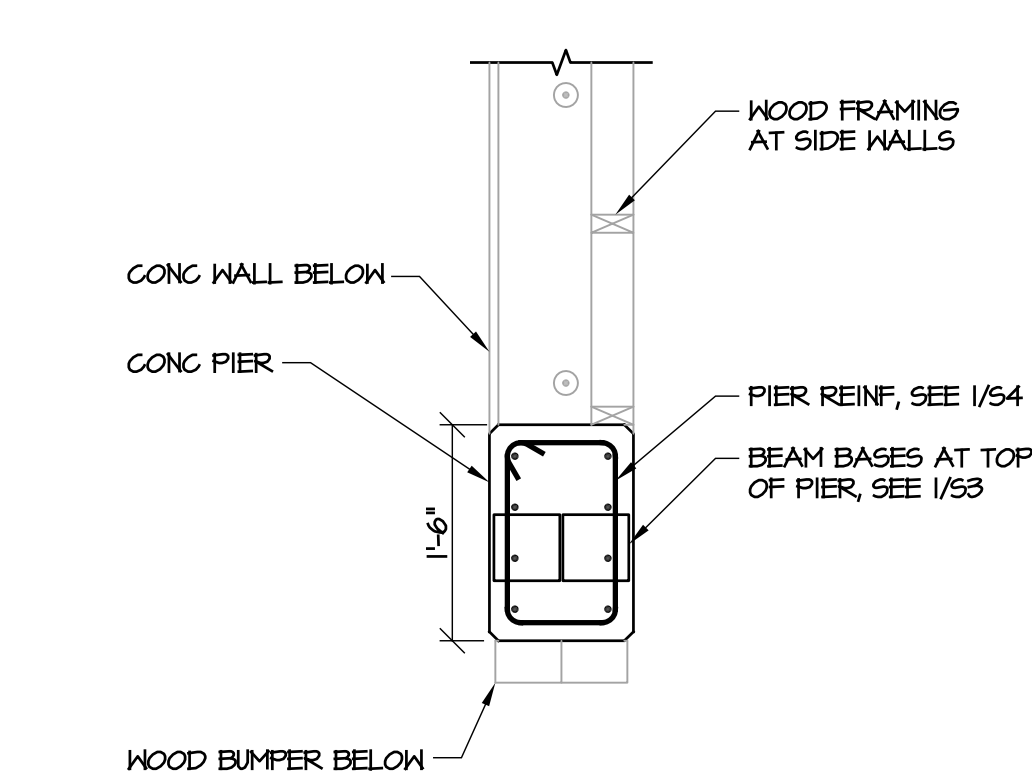
4 WALL CONTROL JOINT

SCALE: 3/4" = 1'-0"



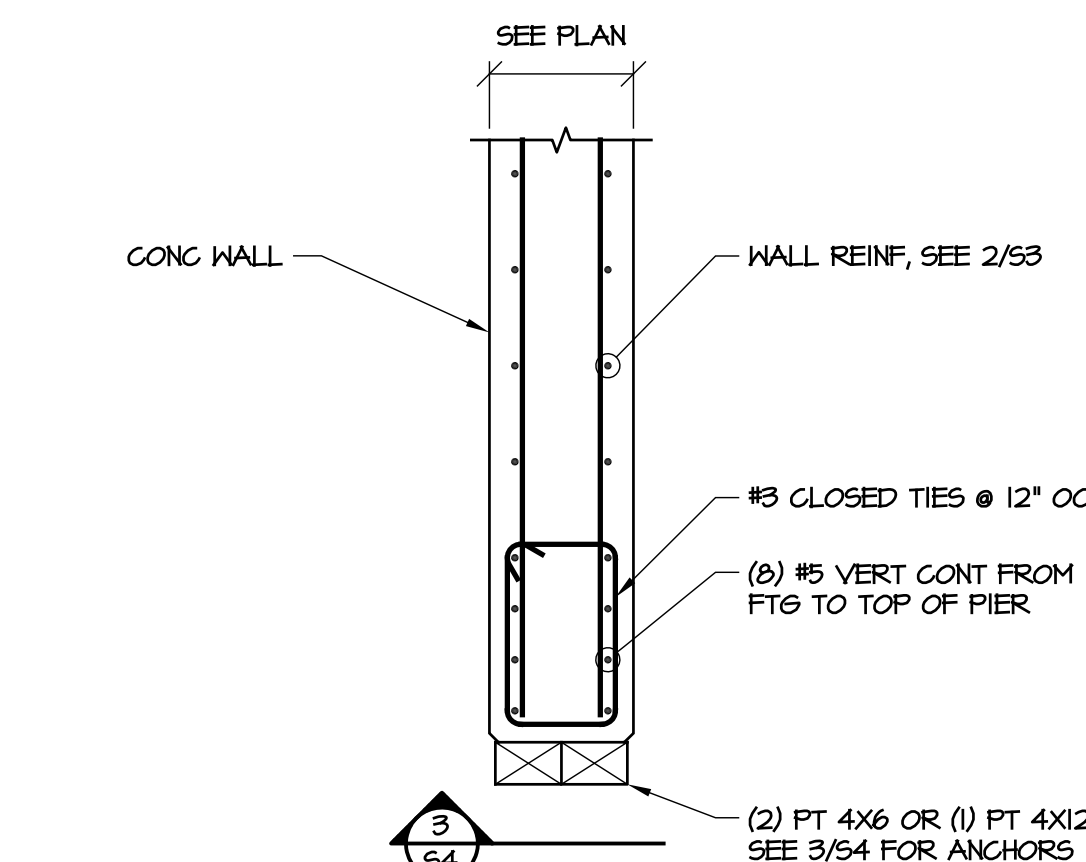
3 WOOD BUMPER ATTACHMENT

SCALE: 3/4" = 1'-0"



2 CONCRETE PIER

SCALE: 3/4" = 1'-0"

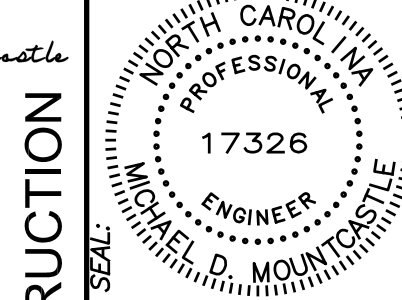


1 FRONT EDGE OF WALL

SCALE: 3/4" = 1'-0"

4/28/2017 | 8:37 AM PDT

DocuSigned by:
Michael Mountcastle
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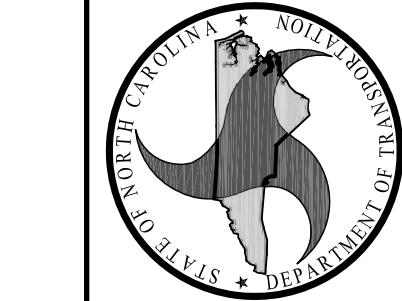


FOR CONSTRUCTION

DESIGNED BY:

FACILITIES DESIGN
ARCHITECTS & ENGINEERS
FACILITIES MANAGEMENT DIVISION, NODOT

1 SOUTH WILMINGTON STREET
RALEIGH, NORTH CAROLINA 27601
PHONE 919/707-4600 FAX 919/706-0089



CONSULTANT:

DETAILS & GENERAL NOTES

PROJECT TITLE:

NEW FOUR-BAY SALT STORAGE BUILDING

HIGHWAY DIVISION 11, NODOT
ALLEGANY COUNTY, NORTH CAROLINA

STATE CONSTRUCTION
ID# 16-13024-01A

ASSET NUMBER:
CO.# SITE# BLDG.#
03 - 02 - 00

REVISIONS
NO. DATE

DATE ISSUED: 04-10-17
DRAWN BY: MDM
CHECKED BY: MDM
SHEET NO.

S4

4 OF 4